

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1-39. Canceled)

40. (Currently Amended) A broadcasting service system for receiving ~~enabling the reception of~~ television broadcasts and providing them directly to a mobile cellular network transmitting means and via that transmitting means to ~~via a mobile cellular telephone telephony terminal, comprising:~~

a broadcast television receiver means for receiving a broadcast television signal;

a converting means for converting a the received broadcast television broadcast signal into a video and audio signal in a format compatible with a signal and transmission standard of a the mobile cellular telephone network and for providing the converted format video and audio signal directly to the mobile cellular network transmitting means; and

wherein the mobile cellular network transmitting means is adapted to transmit for ~~transmitting~~ the thusly converted video and audio signal to a mobile cellular telephone network subscriber via a transmission channel of the mobile cellular telephone network.

41. (Previously Presented) The broadcasting service system according to claim 40, wherein the television broadcast signal complies with a first signal standard for television broadcasting, the converted digital video and audio signal formats compatible with the mobile cellular telephone network comply with a second signal standard, and the first and second signal standards agree with a signal standard which is capable of converting between different transmission systems.

42. (Previously Presented) The broadcasting service system according to claim 41, wherein the first signal standard is the MPEG-2 (Moving Picture Experts Group 2) standard, and the

second signal standard is one of the MPEG-4 (Moving Picture Experts Group 4), H.26L, H.263, and H.26X standards.

43. (Previously Presented) The broadcasting service system according to claim 40, wherein the converting means comprises a transcoder which includes a decoding means which decodes digital video and audio data complying with a digital television broadcasting standard and then encodes the thusly decoded video and audio data into a format compatible with transmission over a communication channel of the mobile cellular telephone network, and a converting-controlling means which controls an encoding rate of the transcoder to comply with a transmission rate of the mobile cellular telephone network.

44. (Previously Presented) The broadcasting service system according to claim 40, wherein the converting means includes a digital signal converting means which converts an analog television broadcast signal into digital video and audio data, an encoding means which formats the thusly converted digital video and audio data and encodes it for compatibility with the transmission standard of the mobile cellular telephone network, and a converting-controlling means which controls an encoded data rate of the encoding means in order to agree with a transmission rate of the mobile cellular telephone network.

45. (Currently Amended) The broadcasting service system according to claim 44, wherein the transmitting means includes a means for putting the formatted digital video and audio signal onto the transmission channel of the mobile cellular telephone network, and a formatting-transmission means which formats and transmits the digital video and audio data with additional broadcasting information.

46. (Previously Presented) The broadcasting service system according to claim 45, wherein EPG (Electronic Program Guide) data is formatted and transmitted with the video and audio data and additional information.

47. (Previously Presented) The broadcasting service system according to claim 40, wherein the transmitting and converting means transmits data through a connected transmission channel between a mobile telephone subscriber terminal and a base station of the mobile cellular telephone network.

48. (Previously Presented) The broadcasting service system according to claim 40, wherein the converting and transmitting means allots at least one transmission channel on the mobile cellular telephone network, and transmits the video and audio signal through the allotted transmission channel.

49. (Previously Presented) The broadcasting service system according to claim 40, further comprising:

an identifying means for identifying a subscriber who has subscribed to reception of such broadcasting service among all subscribers of the mobile cellular telephone network, and

a payment demanding means for demanding payment corresponding to reception of the video and audio signal by the identified subscriber.

50. (Currently Amended) ~~A mobile telephony terminal,~~
The broadcasting service system according to claim 40, further comprising:
the mobile telephony terminal comprising
a digital video and audio data reception means for receiving digital video and audio data through a the transmission channel of a the mobile cellular telephone network;
a decoding means for decoding the received digital video and audio data ; and
an outputting means which outputs the decoded video and audio signal for display and audio reproduction.

51. (Currently Amended) The broadcasting services system ~~mobile telephony terminal~~ according to claim 50, wherein the mobile ~~cellular telephone-telephony~~ terminal includes a receiving-decoding means which receives and decodes an EPG (Electronic Program Guide) signal from a converted television broadcast signal transmitted through the mobile cellular telephone

network, and a transmitting means which transmits a television channel selection request based upon the decoded EPG data to the mobile cellular telephone network.

52. (Currently Amended) The broadcasting service system ~~mobile telephony terminal~~ according to claim 50, wherein the mobile telephony terminal is one of a cellular phone, a PCS (Personal Communication System) terminal, or an IMT-2000 terminal.

53. (Currently Amended) The broadcasting service system ~~mobile telephony terminal~~ according to claim ~~[[53]]~~ 50, wherein the mobile telephony terminal includes a web browser means for searching the EPG data and additional information transmitted from the mobile cellular telephone network.

54. (Currently Amended) A broadcasting service system using a mobile cellular telephony terminal, comprising:

a digital video and audio input means which is provided a digital video and audio signal from a provider;

a transcoding means which converts the provided digital video and audio signal inputted from the digital video and audio input means into a format and transmission rate compatible with transmission over a transmission channel of the mobile cellular telephone network and provides the converted format video and audio signal directly to an allocating transmitting means;

an encoding-converting means for encoding the digital data converted by the digital; and

a transmitting means which transmits the thusly transcoded-converted digital broadcasting signal provided directly to the allocating transmitted means on an allotted channel of the mobile cellular telephone network.

55. (Currently Amended) The broadcasting service system according to claim ~~[[53]]~~ 54, further comprising:

an EPG (Electronic Program Guide) data converting means for converting EPG data for selecting a digital television broadcasting channel into a format compatible with transmission over the mobile cellular telephone network, and

an additional information converting means for converting the additional information of the digital television broadcasting channel into a format compatible with transmission over the mobile cellular telephone network.

56. (Currently Amended) The broadcasting service system according to claim [[54]] 55, wherein the broadcasting service system transmits the EPG (Electronic Program Guide) data and additional information in compatible formats for the mobile cellular telephone network.

57. (Currently Amended) The broadcasting service system according to claim [[54]] 55, wherein the EPG (Electronic Program Guide) data converting means comprises:

a decoding means for decoding an inputted EPG (Electronic Program Guide) data stream of a digital television broadcasting signal;

a restoring means for restoring the EPG data of the decoded data stream~~[[:]]~~;

a database means which stores information corresponding to the restored EPG data~~[[:]]~~;

an EPG information outputting means for outputting EPG information from the database means corresponding to a mobile cellular telephone network subscriber request; and

a converting means for converting the additional information of the digital television broadcasting signal into a format compatible with transmission via the mobile cellular telephone network.

58. (Currently Amended) A broadcasting service system for enabling the reception of television broadcasts by a mobile cellular telephone subscriber terminal, comprising:

a digital signal processing means for receiving a digital television broadcasting signal and providing a television broadcasting program to a mobile cellular telephone network;

a medium storing means for storing broadcast information processed by the digital signal processing means;

a data processing and converting means for converting EPG (Electronic Program Guide) data and additional information of the digital television broadcasting signal processed by the digital signal processing means into a signal format compatible with transmission via the mobile cellular telephone network; and

a transcoder and transmission means for receiving video and audio data and additional information processed by the digital signal processing means, converting them into a signal format compatible with transmission over the mobile cellular telephone network and transmitting the thusly converted data and information over a transmission channel of the mobile cellular telephone network.

59. (Currently Amended) The broadcasting service system according to claim 58, wherein the digital signal processing means comprises:

a tuner for selecting a digital television broadcasting signal carried on a transmission medium; ~~such as terrestrial television broadcasting, satellite broadcasting and cable broadcasting;~~

a demodulating means for restoring the selected digital television broadcasting signal;

a demultiplexer for fetching EPG (Electronic Program Guide) and additional information from the demodulated digital television broadcasting signal; and

a decoder for decoding the video and audio data from the demodulated digital television broadcasting signal.

60. (Currently Amended) The broadcasting service system according to claim 58, wherein the data processing and converting means comprises:

an EPG (Electronic Program Guide) data decoding means for decoding EPG (Electronic Program Guide) data of the digital television broadcasting signal;

a signal converting means for converting the decoded EPG data into a signal format compatible with transmission over the mobile cellular telephone network;

a protocol converting means for converting the converted EPG data into a protocol compatible with the mobile cellular telephone network;

a decoding means for decoding the additional information of the digital television broadcasting signal;

an additional information signal converting means for converting the decoded additional information into a format compatible with transmission over the mobile cellular telephone network;

and

an additional information protocol converting means for converting the converted additional information into a protocol compatible with the mobile cellular telephone network.

61. (Previously Presented) The broadcasting service system according to claim 58, wherein the transcoder and transmission means comprises:

a transcoder for transcoding video and audio data of a digital television broadcasting signal into a format compatible with transmission over a transmission channel of the mobile cellular telephone network;

a transmission rate control means for controlling a transmission rate of the transcoder to comply with the transmission channel of the mobile cellular telephone network;

a converting means for converting the output of the data processing and converting means into a data protocol agreeable to the mobile cellular telephone network;

a synchronization processing means for synchronizing synchronization request information during the transcoding and protocol converting operations; and

a transmitting means for transmitting the processed data in real time by allotting it a transmission channel of the mobile cellular telephone network.

62. (Currently Amended) A broadcasting service method for enabling the reception of television broadcasts by a mobile cellular telephone subscriber terminal, comprising:

converting a broadcast television signal including digital video and audio data into a format compatible with a signal and transmission standard of a mobile cellular telephone network; and

providing the converted format video and audio signal directly to a mobile cellular network transmitter; and

transmitting the converted digital video and audio data to a subscriber of the mobile cellular telephone network through a certain transmission channel of the mobile cellular telephone network transmitter.

63. (Previously Presented) The method according to claim 62, wherein the converting step comprises:

(a) converting the video and audio data of the digital television broadcasting signal into data compatible with the transmission standard and transmission rate of the mobile cellular telephone network; and

(b) converting EPG (Electronic Program Guide) data and additional information of the digital television broadcast signal into information compatible with the transmission standard and transmission rate of the mobile cellular telephone network.

64. (Previously Presented) The method according to claim 62, wherein the transmission step comprises:

(a) synchronization-controlling synchronization request information of the converted digital video and audio data as well as EPG (Electronic Program Guide) data and additional information of the digital television broadcast signal;

(b) converting the EPG data and additional information into a protocol compatible with the mobile cellular telephone network; and

(c) allotting a transmission channel of the mobile cellular telephone network and putting the digital data compatible with the protocol of the mobile cellular telephone network on the transmission channel.

65. (Currently Amended) A broadcasting service method for enabling the reception of television broadcasts by a mobile cellular telephone subscriber terminal, comprising:

transmitting EPG (Electronic Program Guide) data to a subscriber's mobile cellular telephone subscriber terminal through said mobile cellular telephone network when there is a broadcasting service request from the subscriber;

selecting, by the subscriber, of a broadcast television channel by searching the EPG data received at the subscriber's mobile cellular telephone subscriber terminal;

converting video and audio contents of the selected broadcast television channel into digital data compatible with a transmission standard of the mobile cellular telephone network and providing the converted format video and audio signal directly to a mobile cellular network transmitter; and

transmitting the thusly converted data to the subscriber using the mobile cellular network transmitter through a transmission channel of the mobile cellular telephone network.

66. (Previously Presented) The method according to claim 65, wherein a right for viewing digital television broadcasting is granted to the subscriber, and the EPG information is provided to the subscriber after confirming and certifying of the subscriber's viewing right.

67. (Previously Presented) The method according to claim 65, wherein an ID (identification) is granted to the subscriber, and payment for viewing of a digital television broadcasting service is required of the subscriber by identifying the subscriber's ID.

68. (Previously Presented) The method according to claim 66, wherein an ID (identification) is granted to the subscriber, and a payment for viewing of a digital television broadcasting service is required of the subscriber by identifying the subscriber's ID.

69. (Currently Amended) A broadcasting service system, for enabling the reception of television broadcasts by a mobile cellular telephone subscriber terminal, comprising:

an analog television broadcasting reception means for receiving an analog television broadcasting signal;

a digital converting means for converting the received analog television broadcasting signal into digital data and for providing the converted format video and audio signal directly to an allotting transmitting means; and

an encoding-converting means for encoding the digital data converted by the digital converting means into a format compatible with transmission over a transmission channel of a mobile cellular telephone network; ~~and~~

~~an wherein the~~ allotting-transmitting means ~~which-allots~~ is adapted to allot the encoded digital data from the encoding-converting means a certain transmission channel of the mobile cellular telephone network and to transmit ~~transmits~~ said data on said allotted channel.

70. (Previously Presented) The system according to claim 69, further comprising:
an EPG (Electronic Program Guide) signal and additional information extracting means for extracting an EPG signal and additional information from a received television broadcast signal; and

an encoding-converting means for converting the extracted EPG (Electronic Program Guide) signal and additional information into a signal format compatible with the mobile cellular telephone network.

71. (Previously Presented) The system according to claim 69, wherein the encoding-converting means encodes the digitally converted analog television broadcasting signal into a format compatible with transmission over the mobile cellular telephone network among formats including MPEG-4 (Moving Picture Experts Group 4), H.26L, H.263 and H.26X, and puts the thusly formatted signal onto the allotted transmission channel.

72. (Previously Presented) The system according to claim 70, wherein the encoding-converting means encodes the digitally converted analog television broadcasting signal into a format compatible with transmission over the mobile cellular telephone network among formats including MPEG-4 (Moving Picture Experts Group 4), H.26L, H.263 and H.26X, and puts the thusly formatted signal onto the allotted transmission channel.

73. (Currently Amended) A mobile cellular telephone subscriber terminal, comprising:
a broadcast reception means for receiving a television broadcast signal;
a communication processing means for receiving a call signal provided to the subscriber through the a mobile cellular telephone network and restoring-outputting the call signal, and encoding-transmitting a subscriber call signal through the mobile cellular telephone network;
a decoding means for restoring the television broadcast received by the broadcast reception means;
an outputting means for outputting the restored television broadcast from the decoding means directly to a mobile cellular network transmitting means for transmission over the mobile cellular telephone network to and for viewing on the mobile cellular communication subscriber terminal;
and
a selecting means for selecting among a broadcast reception mode and a mobile telephone call mode.

74. (Previously Presented) The terminal according to claim 73, wherein the broadcast data reception means includes an antenna and a tuner, the decoding means includes a demodulation means for demodulating video and audio signal components of a received television broadcast signal, and the outputting means includes a speaker for outputting the demodulated audio signal and a display for displaying the demodulated video signal.

75. (Previously Presented) The terminal according to claim 73, wherein the broadcast reception means includes a bit stream reception means for receiving a bit stream of a digital television broadcasting signal, the decoding means includes a demodulation and restoring means for demodulating video and audio data of the digital television broadcasting signal and restoring the demodulated video and audio data, the outputting means includes a speaker for outputting the restored audio signal and a display for displaying the restored video signal.

76. (Previously Presented) The terminal according to claim 73, wherein the terminal is one of a cellular phone, PCS (Personal Communication System) terminal or IMT-2000 terminal.

77. (Previously Presented) The terminal according to claim 74, wherein the terminal is one of a cellular phone, PCS (Personal Communication System) terminal or IMT-2000 terminal.

78. (Previously Presented) The terminal according to claim 75, wherein the terminal is one of a cellular phone, PCS (Personal Communication System) terminal or IMT-2000 terminal.

79. (Currently Amended) A method for providing a television broadcast reception service over a mobile telephone network, comprising:

at a mobile telephone subscriber's terminal, requesting television broadcast reception service from a mobile telephone network;

at the mobile telephone network, verifying whether the requesting subscriber is entitled to receive television broadcast reception service, and, if so verified, granting access to the requesting subscriber and opening a transmission channel on the mobile telephone network for the provision of

television broadcast reception service to the subscriber and also requesting the provision of EPG (Electronic Program Guide) data from a television broadcast format converter;

at the television broadcast format converter, in response to the request from mobile telephone network, supplying to the mobile telephone network the requested EPG data from a broadcast television signal;

at the mobile telephone network, upon provision of the requested EPG data by the format converter, transmitting the EPG data to the mobile telephone subscriber's terminal;

at the mobile telephone subscriber's terminal, receiving the transmitted EPG data and sending a request to the mobile telephone network for selecting a desired broadcast television channel for viewing;

at the mobile telephone network, in response to the television channel selection request from the mobile telephone subscriber's terminal, requesting the provision of video and audio program data of the selected broadcast television channel from the format converter;

at the format converter, in response to said request from the mobile telephone network, supplying the video and audio data of the selected broadcast television channel directly to the mobile telephone network in a format which is compatible for transmission over the mobile telephone network;

at the mobile telephone network, transmitting the video and audio data of the selected broadcast television channel supplied from the format converter to the mobile telephone subscriber's terminal on the opened transmission channel; and

at the mobile telephone subscriber's terminal, receiving and decoding the video and audio data of the selected broadcast television channel transmitted from the mobile telephone network, for viewing and listening to a broadcast program of the selected broadcast television channel on the mobile telephone subscriber's terminal.